DOCUMENT RESUME

ED 168 083 CS 502 430

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TITLE Metaphoring and Perceiving: An Investigation of a Developmental Relationship.
PUB DATE Feb 79
NOTE 17p.; Paper presented at the Annual Meeting of the Western Speech Communication Association (Los Angeles, California, February 18-21, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Higher Education; *Imagery; *Language Development; *Language Processing; Language Research; *Metaphors; *Perception; Secondary Education; *Symbols (Literary)

ABSTRACT

It is proposed in this paper that a developmental continuum functions between metaphors and the perception of metaphoric referents in both ordinary and aesthetic language use, and three levels of the metaphoring act are isolated: perceptual, analogical, and evaluative. These levels appear justified in terms of their functional association with Piagetian theories of language acquisition. An experimental study, in which 192 high school and college students ranked metaphors from the three levels by their adaptive features (similarity, analogy, and dissimilarity), affirmed the theoretical propositions and suggested new grounds for explaining the intrinsic nature of metaphoric meaning. (Author/RL)

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Metaphoring and Perceiving: An Investigation of A Developmental Relationship

by

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Presented for the Language Behavior Interest Group, Western Speech Communication Association Convention, Los Angeles, 1979

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Abstract: It is proposed that a developmental continuum functions between metaphors and the perception of metaphoric referents in both ordinary and aesthetic language use. Three levels of the metaphoring act are isolated: perceptual, analogical, and evaluative, and the levels are justified in terms of their functional association with the acquisition of language. An experimental study is reported which affirms the theoretical propositions and which suggests new grounds for explaining the intrinsic nature of metaphoric meaning.

CS502430

METAPHORING AND PERCEIVING: AN INVESTIGATION OF A DEVELOPMENTAL RELATIONSHIP

When John Bowers and Michael Osborn concluded their study[1] published in 1966 on the effects of metaphors in persuasive speeches, they posed this question: is there something about the "intrinsic" nature of metaphors which promoted the observed change in audience attitude? More recently, William Jordan, Lyndia Flannagan, and Ronald Wineinger[2] reported that "animate" metaphors first described by Aristotle have an effect upon the perception of novelty, and N. Lamar Reinsch[3] has been reporting an association between metaphoric "content" and perceivers' assessment of speaker credibility. Although description and analysis of the meaning of metaphor--sometimes ambiguously called image and symbol--have been applied to countless studies of literary works, authors, speeches, speakers, and cultural themes, Bowers and Osborn's question remains intriguing and resistant to empirical examination. What can be predicted about metaphoric meaning and language users? Might not the meaning of metaphor depend as much upon the audience as the speaker, as much upon the silent reader as the author, as much upon the interpreter as the literary text? In brief, what are the conditions for the formation of metaphoric meaning?

Today I want to explore and justify two theoretical propositions intended to explain the evolution of metaphoric meaning in perceivers, and toward the close of my discussion I will report an empirical study testing the propositions.

I would like to propose an explanation of metaphor that can be found in the way metaphor develops in the individual. The first level upon which cognitively mature and literate individuals form metaphor is the level of perception. At level one the linguistic units that we call

"metaphor" refer to meaning that everyone in the language community can be presumed to understand because the words refer to biologically common perceptual experience. For example, William Stafford's poem "Strokes"[4] begins: "The left side of her world is gone." We know what the "left side of her world" is because we possess sight, hearing, tactility, and mobility. We can understand her loss in terms of, and in sharp contrast to, our own sensory endowment. On the first level of metaphoring, meaning takes place because the perceiver's experience is similar to the hypothetical experience intended by the metaphor.

A second level of the metaphoring act between linguistic items and perceivers is the level of analogy. Certain attributes of the perceiver's experience are correlative with certain attributes of the hypothetical experience to the extent that the perceiver identifies past experience with hypothetical experience. Consider Radcliffe Squire's metaphor[5] about children who are denied their childhood: "Their hearts are swept beneath the rug." To understand the referent of this metaphor the perciver recognizes the referent of what goes under the rug with the more ambiguous multiple referents of hearts. Then the perceiver identifies self with hypothetical experience.

The third level of metaphoring more fully tests the perceiver's "willing suspension of disbelief" than do the perceptual and the analogical forms. Raymond Souster's poem "My Brother, Dying"[6] is expressed by a speaker who selects a most uncommon verb in association with his brother's death, the word "crawls." "Now he crawls to join the dead." The speaker of this poem forms the perceiver's experience with an evaluation, a judgment upon his brother's death. Evaluative mataphoring goes beyond

perceptual and analogical metaphoring because "he crawls to join the dead" is predicated upon dissimilar attributes between perceiver and hypothetical experience. It is not likely that many perceivers of "My Brother, Dying" have viewed a relative's death in terms of crawling; yet by his speaking act, the persona invites the perceiver to adapt to the persona's world. Evaluative metaphoring, then, depends upon a perceiver who is able to suspend personal values for the sake of trying on highly idiosyncratic words and thoughts of others.

I am proposing, then, that there exists a developmental and functional continuum for the act of metaphoring, and I am isolating three levels of metaphoring by their perceptual, analogical, and evaluative functions. We learn metaphoring by adapting to progressively dissimilar hypothetical experiences, and we continue to metaphor by means of these three structures. Between the perceiver and the intended hypothetical experience there may exist similar, analogical, or dissimilar attributes of meaning which determine the degree to which a given perceiver may participate in the formation of a given metaphor. Let us turn to evidence which supports my contentions.

Although I had not considered claiming a commonality for perceptually based metaphors which included other than the English language community, psychologist Solomon Asch[7] reports the existence of an interlinguistic function of metaphoric reference to perceptual experiences such as "hotness" or "coldness" or "crookedness." The six language groups examined demonstrated similar reference to both physical and psychological referents. For instance the word hot could refer to the physical concept "heat" and the word hot could metaphorically refer to the psychological concept "angry."

Another study conducted by Roger Brown, Raymond Leiter, and Donald Hildum [8] provides evidence that there is substantial agreement among persons concerning metaphoric reference to the voice qualities of singers. Although the words large, heavy, thick, and wide have no literal reference to singing voice quality, the authors conclude that such words are used as metaphoric extensions of the perception of a bass voice. The metaphoric terms, then, are verbal extrapolations of the usual correspondence between large, heavy, thick, and wide persons to bass voices.

If perceptually based metaphoring is as linguistically universal as Asch's study suggests and as pervasive within the English language culture as Brown, Leiter, and Hildrums's study implies, then such metaphors as "the left side of her world is gone" must be especially meaningful among persons within the English language community. We would expect, then, that metaphors which refer to perceptual experience will set favorable conditions for a high amount of adaptation to the hypothetical experience, and we can infer that level one metaphoring is most fundamental in both the developmental and the functional senses.

Although I found no studies pertaining to analogical and evaluative levels of metaphoring, there is a wealth of information about the development of the individual which supports this general explanation: we learn to perceive metaphor by following the pattern we used to acquire language. In other words, I am proposing that learning to metaphor recapitulates the major stages in the acquisition of language.

Jean Piaget and his colleagues have established a theory of human development which pivots on the postulate of progressive decentration of the individual. At the first level of development, infants are captive to their own point-of-view, rooted in the context of the here

and now, and dependent upon the perception of one thing at a time. A very narrow perceptual field defines the first stage of intelligence which is sensori-motor in nature. Metaphoring level one parallels the sensori-motor level of development, for what is known is known by the perceptions, prelinguistically in the case of the infant and postlinguistically in the case of the cognitively mature and literate person. But the mature perceiver of language utilizes level one metaphor within a wide perceptual field for the sake of re-presenting an infinite number of hypothetical perceptual experiences. We do not have to be present at the scene of Stafford's poem to imaginatively construct the old woman who has suffered a stroke. Nor do we have to be any closer to Stafford's scene than our own acquired concept of a stroke to re-present the meaning of "the left side of her world is gone." Although language and literacy make possible an infinite variety of references within a wide perceptual field, metaphoring level one parallels the egocentric nature of the sensori-motor stage by relying primarily upon knowledge obtained through the senses. We have considered in the foregoing two studies how our common biology molds this most basic kind of metaphoring.

As young children gradually learn to predict properties of the world in relation to themselves at the same time as they slowly infer words and their meaning, they become less centered in their own point-of-view. Piaget reports that the relationship between sensori-motor intelligence and the intelligence which functions with representative categories, i.e., words and concepts, is an analogous relationship. "Generally speaking," Piaget affirms, "it can be said that what has been acquired on the practical plane of sensory-motor intelligence . . . does not demand a new apprenticeship on the representative plane, but can

be directly integrated in representations."[9] In other words, the child's sensori-motor knowledge becomes encoded in the child's earliest verbal utterances. Roger Brown's research program in A First Language[10] reveals that twelve children learning four different languages encoded common concepts previously acquired through sensori-motor activity, another confirmation of the analogous relationship between body thinking and verbal thinking in young children.

I have isolated an analogical level of metaphoring because its function parallels the early function of representation which is egocentric and relies partly upon knowledge accumulated through the perceptions. Part of the meaning perceived from "Their hearts are swept beneath the rug" arises from a perceptual recognition and comparison of the referents of hearts to the referent of what is usually swept beneath the rug. The perceptions, then, designate what is to be contrasted and compared in analogical metaphoring. Secondly, it is the responsibility of the perceiver to infer the use of ordinary words in a novel and hypothetical context. I suggest that this inference occurs if perceivers identify part of their experience with the hypothetical experience, an identification that can be relatively intense when it is first performed in adolescence.

To metaphor analogically, then, the perceiver constructs a new meaning from old materials just as the child learns to displace time and space with language. Thus, both child in the egocentric representational stage and the perceiver of analogical metaphor first identify attributes of meaning based on past perception, and secondly, infer, i.e., construct, create, new meaning extending beyond immediate experience.

Both have used what is linguistically familiar to perceptually adapt to what is novel, and both have moved farther from their egocentric poles into the use of others' language and thought.

"Only toward the end of the egocentric period," Piaget declares, "does the child become capable of distinguishing between points of view."[12] We can observe this decentration in the child's speech: Piaget reports from a field study of twenty children[12] that what was a simple clash of action between children at age three becomes a genuine argument between children at age seven, argument predicated upon the ability to differentiate others' points-of-view from one's own. Decentration can be observed in the child's play: the young child playing alone gradually becomes children playing and collectively building scenarios. Preliterate children eagerly adapt to storytellers' worlds, and one of the primary motivations for achieving literacy is the promise of adaptation to the world of a narrator. By approximately age twelve the normally developing child has achieved sufficient development of representational speech and intelligence to adapt to many and diverse points-of-view, both for social and for hypothetical purposes.

The third level of metaphoring recapitulates the pattern of the representational stage of language acquisition. Perceivers who can distinguish among varied points-of-view, whether expressed by rhetors in life or rhetors in literature, are prepared for evaluative metaphoring. Persuasion, public and private, and many works of literature are forms of a narrow and often highly idiosyncratic self-reference. Although the language used ostensibly points to a subject of reference, the particular selection of linguistic items also refers to the speaking subject. "Now he crawls to join the dead" refers to the dying brother,

and the selection of the word crawls also refers to the speaking brother. If speaking subjects include themselves as referents they are expressing more than an attitude and they are asking for something more than a change of attitude on the part of the perceiver; they are forming with language an expression of themselves within their own phenomenal world and they are asking perceivers to share that evaluation.

A perceiver of such idiosyncratic expressions, then, must be able to adapt to an extremely wide range of others' narrow utterances. Because metaphors often function implicitly without the assistance of even a copula--c.f., he crawls with he is a crawling object--evaluative metaphoring, I contend, is the most difficult to perceive, and like the achievement in representational language, probably is the last to be learned. Evaluative metaphoring, then, demands perceivers who flexibly detach themselves from their own perspectives and who eagerly try on the roles others have chosen.

In summary, we can observe that a co-variation between perceptual field and adaptation sets the conditions for the formation of metaphoric meaning. The wider the perceptual field of the speaker, the narrower the adaptation of the perceiver, and conversely, the narrower the perceptual field of the speaker, the wider the adaptation of the perceiver. I have derived two propositions from this co-variation: 1) perceiver adaptation to similar metaphors will establish the conditions for perceiver adaptation to analogical metaphors, and 2) perceiver adaptation to analogical metaphors will establish the conditions for perceiver adaptation to dissimilar metaphors.

(Refer to summary sheet.)

The first hypothesis testing the propositions asserts: there will be significant differences among adaptation to similar, analogical, and dissimilar metaphors. Two more hypotheses are cast regarding the direction of the predicted differences: 1) there will be significantly higher adaptation to similar metaphors than to analogical metaphors, and 2) there will be significantly higher adaptation to analogical metaphors than to dissimilar metaphors. The level of significance was set at .05 for all tests.

Two populations are sampled in this study--perceivers and metaphors. One hundred and ninety-two high school and undergraduate students were randomly selected from six diversified schools. The metaphors were systematically selected in terms of a linguistic theory of metaphor written by Dorothy Mack Lambert,[13] and four of each of the three proposed types of metaphors were selected for the present study. The metaphors are from short poems composed of words all judged to be within the experiential fields of the subjects. (You may review the metaphors and their citations in the summary sheet, and for a full discussion of the experimental instrument, you may wish to consult the source cited in the summary. Read the 12 metaphors if time permits.)

Observations of perceiver adaptation to the metaphors were obtained by instructing subjects to Q-sort the materials in terms of 1 to 9 degrees of perceived involvment--involvement judged to be the best laypersons' equivalent of adaptation when introduced with appropriate instruction. Measures were taken to introduce the metaphors as unobtrusively as possible within the contexts of their poems and within the context of specially constructed and verified literal to figurative heirarchies derived from Lambert's theory.

Median adaptation to the 12 metaphors by four age groups was submitted to the Friedman Two-Way Analysis of Variance test. $X_r^2 = 8$ with a $p < .005$. The decision, then, is to accept hypothesis one: there are significant differences in perceiver adaptation among similar, analogical, and dissimilar metaphors.

Since the three metaphor samples demonstrate statistically significant independence, the Mann-Whitney procedure was applied to the median adaptation scores for individual metaphors to test hypotheses two and three. For both tests, $U = 0$ with $p < .014$. Thus, the second and third hypothesis are accepted: there is significantly higher adaptation to the similar metaphors than to the analogical metaphors and significantly higher adaptation to the analogical metaphors than to the dissimilar metaphors.

In conclusion, the results of this initial investigation of the conditions for the formation of metaphoric meaning tentatively support the propositions advanced in the present discussion. Three types of linguistic clues can be isolated on the basis of their differing perceptual, analogical, and evaluative functions in the perception of hypothetical meaning. Because the metaphors were selected and administered by an adaptation of a linguistic theory, these results can be generalized tentatively to the population of metaphors.

Perceptually based metaphoring invites the highest perceiver adaptation and is the most meaningful formation of metaphor in the population tested. Analogical metaphoring is the second most meaningful, and evaluative metaphoring is the least meaningful. Because the data for the present study was obtained from another investigation, generalization to the high school and undergraduate population is but tentative.

Causal relationships among the three metaphor types cannot be inferred, but the results do imply a functional association among the three metaphoric levels that should be investigated further.

The results of the present study can not be applied to individuals, because the meaning of metaphor is relative to an individual's level of metaphoring development. High adaptation to perceptually based metaphors may be the ultimate adaptation for an individual during a point in time. Analogical metaphoring for one individual may be comparable to evaluative metaphoring for another individual. In view of the relative nature of meaning, then, panels of judges randomly selected from the population to be sampled ought to be employed for categorizing types of metaphoring.

The study I have described to you today offers from a genetic perspective some fresh evidence that promises heuristic explanation for an ancient and fascinating enigma.

FOOTNOTES

[1]John Waite Bowers and Michael M. Osborn, "Attitudinal Effects of Selected Types of Concluding Metaphors in Persuasive Speeches," Speech Monographs, 33 (1966), 147-155.

[2]William J. Jordan, Lyndia Flanagan, and Ronald Wineinger, "Novelty and Recall Effects of Animate and Inanimate Metaphorical Discourse," Central States Speech Journal, 26 (1975), 29-33.

[3]N. Lamar Reinsch, Jr., "Figurative Language and Source Credibility: A Preliminary Investigation and Reconceptualization," Human Communication Research, 1 (1974), 75-80, and "Metaphor Content and Perceived Credibility: A Regression Analysis," paper presented for the 1975 Speech Communication Association Convention, Houston.

[4]William Stafford, "Strokes," in The Rescued Year (New York: Harper & Row, Publishers, copyrights 1952-1966), p. 19.

[5]Radcliffe Squires, "Two Children," in Fingers of Hermes (Ann Arbor: The Univ. of Michigan Press, 1965), p. 9.

[6]Raymond Souster, "My Brother, Dying," in As Is (Toronto: Oxford Univ. Press, 1967), p. 91.

[7]Solomon Asch, "On the Use of Metaphor in the Description of Persons," in On Expressive Language, ed. H. Werner (Worcester, Mass.: Clark Univ. Press, 1955, pp. 29-38.

[8]Roger W. Brown, Raymond A. Leiter, and Donald C. Hildum, "Metaphors from Music Criticism," Journal of Abnormal and Social Psychology, 54 (1957), 347-352.

[9]Jean Piaget, Play, Dreams and Imitation in Childhood, trans. C. Gattegno and F. M. Hodgson (New York: W. W. Norton & Company, Inc., 1962), p. 267.

[10]Roger Brown, A First Language: The Early Stages (Cambridge, Mass.: Harvard Univ. Press, 1973).

[11]Piaget, Play, Dreams and Imitation, p. 288.

[12]Jean Piaget, The Language and Thought of the Child (London: Kegan Paul, Trench, Trubner & Co. Ltd., 1926).

[13]Dorothy Mack Lambert, "The Semantic Syntax of Metaphor: A Case Grammar Analysis," Diss. Univ. of Michigan, 1969.

Summary

METAPHORING AND PERCEIVING: AN INVESTIGATION OF A DEVELOPMENTAL RELATIONSHIP

by Kristina Minister

Perceptual Metaphors

1. the left side of her world is gone
2. they hear us run across their sky
3. after the last class in the empty room chairs relax
4. halfway across a bridge one night
   my father's car went blind

Analogical Metaphors

5. their hearts are swept beneath the rug
6. all the sad sofas we have stained
   with tears of boredom and guilt
7. a perfume that's a crutch
8. murders me at last with a look

Evaluative Metaphors

9. now he crawls to join the dead
10. saw her lost in her weather
11. I . . . grew scales and callouses
12. he looks pale, real pale;
    a dress rehearsal

(metaphor numbers correspond to citations below)

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[1]William Stafford, "Strokes," in The Rescued Year (New York: Harper & Row, Publishers, copyrights 1952-1966), p. 19.

[2]William Stafford, "Hide and Go Seek at the Cemetery," in Someday, Maybe (New York: Harper & Row, Publishers, 1973), p. 24.

[3]William Stafford, "Room 000," in Someday, Maybe, p. 29.

[4]William Stafford, "The Swerve," in Someday, Maybe, p. 67.

[5]Radcliffe Squires, "Two Children," in Fingers of Hermes (Ann Arbor: The Univ. of Michigan Press, 1965), p. 9.

[6]Donald Justice, "Houses," in Night Light (Middletown, Conn.: Wesleyan Univ. Press, copyrights 1961-1967), p. 13.

[7]Philip Legler, "Song," in The Intruder (Athens, Ga.: Univ. of Georgia Press, 1972), p. 20.

[8]Michael Parr, "There is a Girl," in The Green Fig Tree (New York: St. Martin's Press, 1965), p. 6.

[9]Raymond Souster, "My Brother, Dying," in As Is (Toronto: Oxford Univ. Press, 1967), p. 91.

[10]Ruth Whitman, "Tall Grasses," in The Marriage Wig (New York: Harcourt, Brace & World, Inc., copyrights 1963-1968), p. 7.

[11]Linda Pastan, "To My Son, Approaching 11," in A Perfect Circle of Sun (Chicago: The Swallow Press, Inc., 1971), p. 18.

[12]Alfeo Marzi, "Terminal Case," in Bronx Crossing (Boston: Branden Press Publishers, 1966), p. 67.

Summary

Hypothesis 1: there will be significant differences among adaptation to similar, analogical, and dissimilar metaphors.

Friedman Two-way Analysis of Variance

Median Adaptation to Metaphor

		Similar	Analogical	Dissimilar
Age	1	6.787	5.916	4.024
	2	7.116	6.125	5.334
	3	7.233	6.120	4.862
	4	7.250	5.918	4.567

$\chi_r^2 = 8 \quad p < .005$

Hypothesis 2: there will be significantly higher adaptation to similar metaphors than to analogical metaphors.

Hypothesis 3: there will be significantly higher adaptation to analogical metaphors than to dissimilar metaphors.

Mann-Whitney U Test

Median Adaptation to Metaphor, 192 cases

left side	7.765	similar
father's car	7.157	similar
they hear	6.839	similar
chairs relax	6.533	similar
tears	6.500	analogical
hearts	6.397	analogical
murders	5.591	analogical
perfume	5.579	analogical
crawls	5.045	dissimilar
dress rehearsal	4.938	dissimilar
scales	4.813	dissimilar
weather	3.231	dissimilar

H_1: $n_1 = 4, n_2 = 4 \quad U = 0 \quad p < .014$

H_2: $n_1 = 4, n_2 = 4 \quad U = 0 \quad p < .014$

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[13] For a complete description of the instrument used to obtain the present data see Kristina Minister, "The Perception of Literature by Silent Readers and Oral Interpreters: A Theory and an Exploratory Experimental Study," Diss. Northwestern University 1977, pp. 135-147.